

R E P O R T R E S U M E S

ED 003 064

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THE EFFECTS OF TEACHER-STUDENT SIMILARITY IN AN EDUCATIONAL SKILLS COURSE.

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REPORT NUMBER CRP-S-217

PUB DATE 30 SEP 65

MARYLAND UNIV., COLLEGE PARK

REPORT NUMBER DR-5-8226

EDRS PRICE MF-\$0.18 HC-\$2.64 66P.

DESCRIPTORS- *STUDENT TEACHER RELATIONSHIP, *TEACHER CHARACTERISTICS, *STUDENT CHARACTERISTICS, COLLEGE STUDENTS, COLLEGE FACULTY, ACHIEVEMENT, STUDENT IMPROVEMENT, SELF CONCEPT, *PERSONALITY, PSYCHOLOGICAL TESTING, COLUMBUS, OHIO, COLLEGE PARK, MARYLAND

THE INTERACTION OF TEACHER-STUDENT CHARACTERISTICS AND NEEDS AS RELATED TO STUDENTS' ACHIEVEMENT, IMPROVEMENT, AND SATISFACTION WAS EXPLORED DURING THE REPORTED RESEARCH. THE FOLLOWING HYPOTHESES WERE TESTED--(1) THOSE STUDENTS WHOSE MEASURED CHARACTERISTICS ARE MOST SIMILAR TO THOSE OF THE INSTRUCTOR OBTAIN THE HIGHEST ACHIEVEMENT RATIOS, (2) THOSE STUDENTS WHOSE MEASURED CHARACTERISTICS AGREE MOST NEARLY WITH THOSE OF THE INSTRUCTOR SHOW THE GREATEST AMOUNT OF IMPROVEMENT, AND (3) THOSE STUDENTS WHOSE MEASURED CHARACTERISTICS ARE MOST SIMILAR TO THOSE OF THE INSTRUCTOR REPORT THE HIGHEST DEGREE OF SATISFACTION WITH IMMEDIATE OUTCOMES OF THE COURSE. FIVE SEPARATE INSTRUMENTS PROVIDED DATA ON EIGHT PERSONALITY CHARACTERISTICS OF ALL TEACHERS AND THE STUDENTS ENROLLED IN AN EDUCATIONAL SKILLS COURSE AT OHIO STATE UNIVERSITY. CORRELATIONS BASED ON DATA COLLECTED LED TO THE CONCLUSION THAT STUDENT SATISFACTION AND PERFORMANCE ARE MORE INFLUENCED BY TEACHER CHARACTERISTICS THAN BY TEACHER-STUDENT SIMILARITY OF CHARACTERISTICS. THE GENERAL LACK OF SIGNIFICANCE IN TEACHER-STUDENT SIMILARITY INDICATED THAT THERE IS LITTLE EVIDENCE OF INTERACTION OF STUDENTS AND TEACHERS ALONG MEASURABLE PERSONALITY DIMENSIONS. (WB)

U. S. DEPARTMENT OF HEALTH, EDUCATION AND WELFARE
Office of Education

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**The Effects of Teacher-Student Similarity
in an Educational Skills Course**

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Final Report

September 30, 1965

U.S. Department of Health, Education, and Welfare

Office of Education Contract

Project Number S-217

The Ohio State University

Department of Psychology

ED003064

ACKNOWLEDGMENTS

To the teachers of the educational skills course, who gave freely of their personal time and their class time for the completion of the many questionnaires; to the students, who co-operated in providing the necessary data; to the research assistants, who conducted the data analysis; to the secretaries, who arranged and recorded innumerable distributions, and to The Ohio State University Numerical Computation Laboratories, we wish to express our grateful appreciation.

L.D.S.
B.R.F.

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CHAPTER I

INTRODUCTION

PROBLEM

Observation of the effects of an educational skills course¹ taught by several different instructors has revealed a disparity not ordinarily expected from a course in which the same text and common exercises and examinations are used. The most obvious explanation is the variation in instructors and in their goals and methods of teaching.

Reports by the instructors as to the types of students who benefit most from their courses suggest the possibility that student achievement and satisfaction are related to the similarity between the educational goals and personal characteristics of the students and the instructional goals and personal characteristics of his instructor. More simply, certain types of students will perform better and feel a greater sense of accomplishment under one instructor than they will under another. The intent of this project is to analyze student achievement and satisfaction as a function of teacher-student similarity.

OBJECTIVES

The purpose of this research was to explore the interaction of teacher-student characteristics and needs as related to

¹This course is described in Chapter II.

achievement, improvement and satisfaction in an educational skills course.

Specifically, the following hypotheses were tested:

- A. Those students whose measured characteristics are most similar to those of the instructor obtain the highest achievement ratios.

The achievement ratio provides a measure of the student's total grade performance in the educational skills course as compared to his overall academic performance during the two subsequent quarters of the academic year. For example, if a student receives a grade B (3 points) in the educational skills course and a point hour ratio of 2.5 for all other courses in which he was registered during his academic year, his achievement ratio is $\frac{3.0}{2.5}$ or 1.2. Such a device allows each student to serve as his own control for ability and general motivation.

- B. Those students whose measured characteristics agree most nearly with those of the instructor show the greater amount of improvement, within the academic term, in a variety of selected educational skills, e.g., reading rate and comprehension.
- C. Those students whose measured characteristics are most similar to those of the instructor report the highest degree of satisfaction with immediate outcomes of the course.

RELATED RESEARCH

McKeachie (1962) provides a comprehensive summary of the research in the area most relevant to the present research--

the influence of teaching methodology. McKeachie concludes that studies of teaching techniques have produced essentially negative results primarily because students within each class respond differentially to a given technique. Seemingly, competence and enthusiasm are more important than the method per se. Perhaps, McKeachie goes on to say, both content and instructor characteristics (italics not in original) interact with teaching methods in production of the final outcome.

That such a statement is potentially valid is given credence by a number of studies of elementary and high school pupil-teacher interaction. In the area of student-teacher relationships, without regard to academic outcomes, it has been shown that students demonstrate significantly different reactions to teachers with varying degrees of personal adjustment (Crawford, 1953) and affective values (Della Piana, and Gage, 1955). Thelen's (1961) "Teachability Grouping" research revealed that students' liking for teachers, course work, and fellow students is enhanced by giving teachers those students they feel are most "teachable." Bush (1942) noted that the effectiveness of the teacher-student relationship was limited by (1) the purposes of the teacher, (2) the purposes of the student, (3) the needs of the student, and (4) the ability of the teacher to meet the needs of the student. Seemingly, these studies bear out Moustakas' (1956) basic premise that the development of the right kind of relationship in the classroom can make teachers more effective and pupils better able to develop their potentialities.

Similarly significant results have been obtained when academic outcomes and teacher characteristics have been studied. Christensen (1960) found teacher "warmth," but not teacher "permissiveness," to be significantly related to achievement in vocabulary and arithmetic among fourth and fifth graders. Heil and Washburne's (1961) research demonstrated that pupil's greatest progress, both academically and socially, occurs in the classroom of self-controlled teachers, rather than of turbulent and fearful teachers. Cogan's (1958) factorial work with the preclusion-inclusion dimension of teacher behavior suggests that self-initiated student productivity is significantly affected by the "inclusive" aspect of the dimension. The relationship of preclusion and productivity is not yet clear.

For college students, McKeachie (1961) reports that teacher's affiliative behavior (warmth) is related significantly to grades of students--women achieving a higher level and men at a lower level than expected in "warm" classes.

Research concerning students' needs and characteristics and their interaction with those of the teachers is relatively rare. A study by Hamlin and Gaier (1954) provided some of the earlier evidence that students who describe their teachers in terms similar to those teachers use to describe them (the students) earn significantly higher grades. Winter (1961) demonstrated that freshmen psychology course grades are significantly correlated with similarity in student-teacher values and the students' ability to predict the teachers' values. McKeachie (1961) found that students with a high need for power did significantly

better in classes where volunteering was emphasized. Furthermore, he found that students in the middle range of a scaled need for achievement responded best academically to an average number of achievement cues--high n Achievement students preferred "low cue" classes and low n Achievement students preferred "high cue" classes. Lewis' (1964) study refuted the hypothesis that students and teachers interact along measurable personality dimensions.

CHAPTER II

PROCEDURE

GENERAL DESIGN

The research design provided for the testing of the effect of similarity of student-teacher characteristics (independent variable) on the dependent variables of achievement, improvement, and satisfaction. The choice of the independent variable is based on the significant results obtained by using the same variable in other settings, as noted in the literature review. The dependent variables included three objective measures of performance and one measure of attitude toward the outcomes. These measures are described below.

POPULATIONS

The student population included all students enrolled in Psychology 411 (educational skills course) at The Ohio State University during the Autumn and Winter academic quarters, 1964-65. This course is offered each academic quarter to all interested students. The course involves two main areas of emphasis: (1) the attitudinal aspects of higher level skills, including motivation, concentration, attention, perception, and adjustment; (2) the content aspects of higher level skills, including reading, communication, academic performance and systematic inquiry. The class meets three class hours and two laboratory hours each week. The student receives three hours

credit toward his cumulative point hour, but receives no credits toward graduation. Classes are small, approximately 22 students; however, no individual tutoring is attempted.

The average student during the first half of the 1964-65 academic year was an 18 year old, (range 16-26) first quarter, male freshman from Arts and Sciences. His American College Test percentile was 41. Since the typical student had no previous college experience, no measure of prior college performance was available; however, a 1961 survey of the advanced students then in the educational skills course revealed an actual cumulative point hour lower than that predicted by their entrance test scores.

The instructors of the educational skills course were all graduate students studying for the Ph.D. degree in Counseling psychology. The average age of the five males and four females teaching the course was 30.3, with a range of 23 to 41. The teaching of this course is one of the internship experiences needed to attain the Ph.D. degree in Counseling Psychology.

CHARACTERISTICS MEASURES

Five separate instruments provided data on eight personality characteristics, for both students and instructors.

1) The Myers-Briggs Type Indicator (1962) measures four basic preferences, which under Jungian Theory, structure the individual's personality. These dimensions and their affects are:

<u>Index</u>	<u>Preference as between</u>	<u>Affects individual's choice as to</u>
EI	Extroversion or Introversion	Whether to direct perception and judgment upon environment or world of ideas
SN	Sensing or Intuition	Which of these two kinds of perception to rely on
TF	Thinking or Feeling	Which of these two kinds of judgment to rely on
JP	Judgment or Perception	Whether to use judging or perceptive attitude for dealing with environment

Emphasis is on the type pattern, e.g., ESTP; however, the greater the preference score on each index, the stronger the preference for that particular function. Extensive research reported in the manual supports the reliability and validity of this instrument.

2) The Rokeach Dogmatism Scale (1960) (Appendix A; p. 42) is a widely used instrument measuring the degree of open and closed mindedness. Rokeach describes this dimension as follows:

The more open one's belief system, the more should evaluating and acting on information proceed independently on its own merits, in accord with the inner structural requirements of the situation. Also, the more open the belief system, the more should the person be governed in his actions by internal self-actualizing forces and the less by irrational inner forces. Consequently, the more should he be able to resist pressures exerted by external sources to evaluate and to act in accord with their wishes. One important implication here is that the more open the person's belief system, the more strength should he have to resist externally imposed reinforcements, or rewards and punishments. Conversely, the more closed the belief system, the more difficult should it be to distinguish between information received about the world and information received about the source. What the external source says is true about the world should become all mixed up with what

the external source wants us to believe is true, and wants us to do about it. To the extent that a person cannot distinguish the two kinds of information received from the source, he should not be free to receive, evaluate, and act on information in terms of inner requiredness. He should be exposed to pressures, rewards and punishments, meted out by the source designed to make him evaluate and act on the information in the way the source wants him to. (p. 58)

The mean score, for U.S. college students, on the Dogmatism Scale is approximately 142, with a standard deviation of 27 score points. The higher the score, the more closed-minded is the individual.

3) The Crowne-Marlowe Personal Reaction Inventory (1960) (Appendix B; p. 47) indicates the extent to which subjects respond affirmatively to socially desirable statements. The inference in social desirability research is that those persons who have high scores on measures of social desirability respond to psychological and sociological measures in such a way that the data reveal only what the person thinks he should do, not what he really does. In a personal communication, Crowne indicated that the typical college student mean on his questionnaire is approximately 15.

4) The James-Phares Social Reaction Inventory (James, 1957) (Appendix C; p. 50) is a measure of the perceived locus of control. A wide variety of studies of this dimension of personality have suggested that it constitutes a major variable in behavior theory (Rotter, et al, 1962). The James-Phares Social Reaction Inventory has been widely used at The Ohio State University in unpublished research (Donovan, 1965).

The approximate college student mean is 7. Higher scores reflect a perception of external locus of control.

5) The Aronson Graphic Expression measure of need for achievement (1958) provides a simple and brief assessment of the extent of achievement motivation. Aronson's original data yielded a stable and discriminating measure, significantly correlated with traditional measures of need for achievement. Validity of the measure was provided in two studies reported by McClelland (1958 a & b). In the present study, the part-score most consistent with Aronson's data was the "discrete-fuzzy" score; therefore, subsequent analyses utilized only the "discrete-fuzzy" score as the measure of n Achievement.

PERFORMANCE MEASURES

Four performance measures yielded the four scores which serve as the dependent variables in this study.

1) The achievement ratio is described in the objectives (p. 1). This ratio is an original development of the present writers. If students did not complete at least two academic quarters, the achievement ratio was computed with the cumulative point hour attained at the time of withdrawal.

2) The Brown-Holtzman Survey of Study Habits and Attitudes (1953) assesses both the study behaviors and attitudes of college students. The Survey correlates approximately .45 with grades. The college student mean is 33 for women, 36 for men. The higher the score, the better the study behaviors and attitudes. For the present study, the survey was administered the first day of class and again the last week of class.

The change in scores, an inferred measure of improvement, provided the data for analysis, with respect to teacher-student similarity.

3) The Robinson-Hall Reading Tests (1949) are a series of five timed readings with appropriate tests of comprehension. In the present research, the Canadian History selection was administered during the first week of class and the Russian History selection during the last week of class. The college student means for speed and comprehension reported by Robinson Hall are: Canadian History, speed 207 words per minute, 67% comprehension; Russian History, speed 198 words per minute, 65% comprehension. A Reading Efficiency Index was obtained for each test, by the following formula: (speed x comprehension). A measure of reading improvement was obtained by comparing Reading Efficiency Indexes; (Russian History speed x comprehension) - (Canadian History speed x comprehension) = _____. A plus score indicates improvement in reading skills during the educational skills course.

4) A measure of the student's satisfaction with the educational skills course was developed by the present writers (Appendix D; p. 55). All 13 items elicited responses in four of the five categories of response. Only six of the items received scores in the "very dissatisfied" category. Frequency of response, from most to least, was "satisfied," "very satisfied," "neutral," "dissatisfied," and "very dissatisfied."

PROCEDURES

All measures of characteristics, except the Graphic

Expression of n Achievement, were administered to instructors prior to the beginning of the Autumn Quarter, 1964. Students received the same measures during the first week of the Autumn Quarter, 1964, and the Winter Quarter, 1965. The Graphic Expression of n Achievement was administered to instructors and students approximately one month later, due to a change in contract dates.

The Brown-Holtzman Survey of Study Habits and Attitudes and the Robinson-Hall Reading Test were administered to all students during the first week of class and again during the last week of class. The satisfaction questionnaire was also administered during the last week of class.

Data for the achievement ratios were collected at the end of the academic year.

CHAPTER III

DATA ANALYSIS

The primary analysis of the present research includes thirty-two analyses of variance with respect to teacher-student similarity and teacher characteristics. The data also permitted an intercorrelation analysis of student characteristics and performance scores. The reporting of the data analysis and results is divided into two corresponding segments.

TEACHER-STUDENT INTERACTION

For each of the eight characteristic measures, all students of a given instructor were divided into three equal groups: one group most similar to the instructor as indicated by bilateral proximity to his position on the given dimension, i.e., the group in best agreement included students on both sides of the instructor's position on the continuum; a second group of "moderate agreement," and a third group of "low agreement" were similarly determined.

The instructors were divided into an "upper" and a "lower" group for each of the eight characteristics. Table 1 presents the means of the teachers in the "upper" and "lower" groups on each dimension.

These two types of categorization provided a three by two format (three levels of agreement and two levels of instructors).

Table 1

"Upper" and "Lower" Group Means of Teacher Characteristics

Characteristic	Upper	Lower
Myers Briggs Type Indicator		
Extroversion--Introversion	-14.5	17.0
Low Intuition--High Intuition	35.8	46.0
Thinking--Feeling	- 1.0	30.0
Judgment--Perception	-10.5	35.8
Social Desirability	15.0	3.4
Locus of Control	6.0	2.8
Dogmatism	143.5	107.2
<u>n</u> Achievement	8.2	3.0

The students' scores were then inserted into eight (eight characteristics) three by two formats for each of the four performance measures, yielding 32 analyses of variance matrices. Each cell had an n ranging from 81 to 106. Appropriate corrections were made for unequal n's.

Tables 2--9 give the means and significances of the sources of variance with respect to each of the four performance criteria. The direction of the significance of any variance can be determined by an inspection of the corresponding Tables of means.

Table 2 indicates that the teacher characteristics of (1) "Sensing--Intuition", (2) "Thinking--Feeling", (3) "Locus of Control", (4) "Dogmatism", and (5) "n Achievement" all significantly influence students' satisfaction with the Educational Skills Course. No other performance criterion is so frequently related to teacher characteristics. Inspection of the Table of means (Table 3) shows that the more satisfied students have teachers who (1) are highly intuitive (idea oriented), (2) are "feeling" oriented (in contrast to "thinking" oriented), (3) have a conventional perception of locus of control, (4) exhibit a normal amount of dogmatic thinking, and (5) demonstrate a high n Achievement.

The only significant variance with respect to satisfaction and teacher-student similarity occurs in the "judgment--perception" and social desirability dimensions. Table 3 shows that on both dimensions the less the student is like his teacher, the more satisfied he is with the course. Although other variances in the teacher-student similarity

Table 2

F-ratios for Differences in Students' Satisfaction
as a Function of (1) Teacher Characteristics
and (2) Similarity of Student-Teacher Characteristics

Characteristic	Source of Variation	F-ratio	Significance
Myers Briggs Type Indicator Extroversion--Introversion	Teacher Characteristic	1	n.s.
	Level of Similarity	1	n.s.
	Interaction	1.10	n.s.
Sensing--Intuition	Teacher Characteristic	8.90	.01
	Level of Similarity	1.36	n.s.
	Interaction	1	n.s.
Thinking--Feeling	Teacher Characteristic	5.90	.05
	Level of Similarity	1.03	n.s.
	Interaction	1	n.s.
Judgment--Perception	Teacher Characteristic	1	n.s.
	Level of Similarity	7.90	.01
	Interaction	1	n.s.
Personal Reaction Inventory (Social Desirability)	Teacher Characteristic	2.50	n.s.
	Level of Similarity	6.00	.01
	Interaction	1.84	n.s.
Social Reaction Inventory (Locus of Control)	Teacher Characteristic	3.60	.10
	Level of Similarity	2.04	n.s.
	Interaction	1	n.s.
Opinionnaire (Dogmatism)	Teacher Characteristic	21.20	.01
	Level of Similarity	1.41	n.s.
	Interaction	1	n.s.
Graphic Expression (Need Achievement)	Teacher Characteristic	4.10	.05
	Level of Similarity	1	n.s.
	Interaction	1	n.s.

Table 3

Mean Scores of Students' Satisfaction
as a Function of (1) Teacher Characteristics
and (2) Similarity of Student-Teacher Characteristics^a

Teacher Characteristic	Level of Student Similarity to Teacher		
	High	Middle	Low
Myers Briggs Type Indicator			
Extroversion	52.6	52.2	52.1
Introversion	51.5	52.6	52.5
Low Intuition	51.0	51.0	51.4
High Intuition	52.3	52.3	53.9
Thinking	51.0	51.9	51.8
Feeling	52.3	52.9	53.1
Judgment	51.2	52.2	53.5
Perception	50.8	52.8	53.0
Personal Reaction Inventory			
Aver. Soc. Desir.	51.8	51.7	54.3
Low Soc. Desir.	50.4	51.9	52.2
Social Reaction Inventory			
Aver. External	53.2	52.3	52.5
Low External	52.5	51.8	50.8
Opinionnaire			
Aver. Dogmatic	53.3	54.1	52.5
Low Dogmatic	51.0	51.3	50.9
Graphic Expression			
High <u>n</u> Ach	53.1	51.8	53.1
Aver. <u>n</u> Ach	51.2	51.4	52.0

^aMeans of Students' responses to the Satisfaction Questionnaire, Appendix D, p. 55

analysis for the satisfaction criterion are not significant, inspection of the direction of differences in means reveals that, with the exception of the dimensions of extroversion, locus of control, and dogmatism, the less a student is like his teacher, the more satisfied he is.

Tables 4 and 5 provide the data relevant to changes in students' "before and after" performance on the Brown Holtzman Survey of Study Habits and Attitudes. Students of teachers with conventional amounts of (1) socially desirable attitudes and (2) dogmatic thinking show more improvement. No other trends in the influence of teacher characteristics on this criterion measure are apparent.

No significant variances occur with respect to the influence of teacher--student similarity on improvement in study habits and attitudes. The directions of differences in means are about equally divided among (1) random changes, (2) greater improvement with similarity, and (3) greater improvement with dissimilarity.

Tables 6 and 7 indicate that students attain greater increments in reading skill during the educational skills course if they have teachers who are (1) more extroverted than introverted, and (2) are conventional in their perception of locus of control. Inspection of the trends of mean changes also reveals students of teachers who use more perception than judging in dealing with their environment show slightly more improvement in reading.

With regard to teacher--student similarity, Tables 6 and

Table 4

F-ratios for Differences in Students' Improvement in Study Habits and Attitudes as a Function of (1) Teacher Characteristics and (2) Similarity of Student-Teacher Characteristics

Characteristic	Source of Variation	F-ratio	Significance
Myers Briggs Type Indicator			
Extroversion--Introversion	Teacher Characteristic	1	n.s.
	Level of Similarity	1.16	n.s.
	Interaction	1	n.s.
Sensing--Intuition	Teacher Characteristic	1	n.s.
	Level of Similarity	1	n.s.
	Interaction	1	n.s.
Thinking--Feeling	Teacher Characteristic	1	n.s.
	Level of Similarity	1	n.s.
	Interaction	1	n.s.
Judgment--perception	Teacher Characteristic	1	n.s.
	Level of Similarity	1.94	n.s.
	Interaction	1	n.s.
Personal Reaction Inventory (Social Desirability)	Teacher Characteristic	3.28	.10
	Level of Similarity	1.77	n.s.
	Interaction	1.10	n.s.
Social Reaction Inventory (Locus of Control)	Teacher Characteristic	2.67	n.s.
	Level of Similarity	1.27	n.s.
	Interaction	1.14	n.s.
Opinionnaire (Dogmatism)	Teacher Characteristic	4.80	.05
	Level of Similarity	1.64	n.s.
	Interaction	1	n.s.
Graphic Expression (Need Achievement)	Teacher Characteristic	1	n.s.
	Level of Similarity	1.56	n.s.
	Interaction	1.54	n.s.

Table 5

Mean Scores of Students'
Improvement in Study Habits and Attitudes
as a Function of (1) Teacher Characteristics
and (2) Similarity of Student-Teacher Characteristics^a

Teacher Characteristic	Level of Student Similarity to Teacher		
	High	Middle	Low
Myers Briggs Type Indicator			
Extroversion	3.6	5.9	6.2
Introversion	5.9	6.0	6.3
Low Intuition	6.2	6.0	4.8
High Intuition	6.1	5.3	6.4
Thinking	5.3	5.6	5.7
Feeling	6.1	6.4	5.3
Judgment	5.1	7.2	5.6
Perception	5.2	6.7	4.8
Personal Reaction Inventory			
Aver. Soc. Desir.	6.2	6.8	6.8
Low Soc. Desir.	3.9	4.5	7.0
Social Reaction Inventory			
Aver. External	6.5	6.5	6.4
Low External	6.9	4.4	4.1
Opinionnaire			
Aver. Dogmatic	6.8	6.3	6.8
Low Dogmatic	6.6	3.6	4.4
Graphic Expression			
High <u>n</u> ach	6.9	5.7	5.3
Aver. <u>n</u> ach	5.1	7.5	4.3

^aMeans of changes in scores on the Brown Holtzman Survey of Study Habits and Attitudes administered before and after the Educational Skills Course

Table 6

F-ratios for Differences in Students'
Reading Improvement
as a Function of (1) Teacher Characteristics
and (2) Similarity of Student-Teacher Characteristics

Characteristic	Source of Variation	F-ratio	Significance
Myers Briggs Type Indicator Extroversion--Introversion	Teacher Characteristic	2.90	.10
	Level of Similarity	3.09	.05
	Interaction	1	n.s.
Sensing--Intuition	Teacher Characteristic	1	n.s.
	Level of Similarity	2.24	n.s.
	Interaction	3.53	.05
Thinking--Feeling	Teacher Characteristic	1	n.s.
	Level of Similarity	1.31	n.s.
	Interaction	2.94	.10
Judgment--Perception	Teacher Characteristic	1	n.s.
	Level of Similarity	1	n.s.
	Interaction	1	n.s.
Personal Reaction Inventory (Social Desirability)	Teacher Characteristic	1	n.s.
	Level of Similarity	2.32	.10
	Interaction	1	n.s.
Social Reaction Inventory (Locus of Control)	Teacher Characteristic	6.45	.05
	Level of Similarity	1	n.s.
	Interaction	1.85	n.s.
Opinionnaire (Dogmatism)	Teacher Characteristic	1.69	n.s.
	Level of Similarity	1.03	n.s.
	Interaction	1.24	n.s.
Graphic Expression (Need Achievement)	Teacher Characteristic	1.47	n.s.
	Level of Similarity	1	n.s.
	Interaction	1.30	n.s.

Table 7

Mean Scores of Students'
Reading Improvement
as a Function of (1) Teacher Characteristics
and (2) Similarity of Student-Teacher Characteristics^a

Teacher Characteristic	Level of Student Similarity to Teacher		
	High	Middle	Low
Myers Briggs Type Indicator			
Extroversion	3679	3673	4504
Introversion	3088	2757	4073
Low Intuition	3750	4050	3553
High Intuition	4966	2889	3695
Thinking	4261	3730	3679
Feeling	3163	3195	4666
Judgment	3455	3419	3860
Perception	4098	3727	3974
Personal Reaction Inventory			
Aver. Soc. Desir.	4067	4302	3167
Low Soc. Desir.	4105	3713	3225
Social Reaction Inventory			
Aver. External	3881	3809	5018
Low External	3493	3335	3096
Opinionnaire			
Aver. Dogmatic	4599	4125	3327
Low Dogmatic	3668	3274	3668
Graphic Expression			
High <u>n</u> Ach	2984	3976	3807
Aver. <u>n</u> Ach	4146	3638	4367

^aMeans of changes in Reading Efficiency Indexes (p. 11) on the Robinson-Hall Reading Tests administered before and after the Educational Skills Course

7 show that (1) students least like their teachers in "extroversion--introversion" show more improvement while (2) students most like their teachers in socially desirable attitudes show more improvement. Other trends in means are apparently random.

Interactions of teacher characteristics and teacher--student similarity with respect to reading improvement are significant for the dimensions of "low--high intuition" and "thinking--feeling". As students are more like "high intuition" and "feeling" teachers (and less like "low intuition" and "thinking" teachers) they show more reading improvement.

As shown in Table 8, only teacher characteristics are a significant source of variation with respect to academic achievement of the educational skills students. Students show the most achievement when their teachers (1) are "highly intuitive" (idea oriented), (2) are "feeling" oriented, (3) have a conventional amount of socially desirable attitudes, and (4) exhibit a normal amount of dogmatic thinking. It was also found that three of these four teacher characteristics significantly influenced student satisfaction. Students of teachers who use more perception than judging in dealing with their environment also show slightly more academic achievement (this same trend was apparent in reading improvement).

No variance related to teacher--student similarity is significant. Trends of the means for the various levels of teacher--student similarity are seemingly random.

An integration of the results in the eight tables provides only two meaningful observations. (1) As noted above, three

Table 8

F-ratios for Differences in Students'
Achievement Ratios
as a Function of (1) Teacher Characteristics
and (2) Similarity of Student-Teacher Characteristics

Characteristic	Source of Variation	F-ratio	Significance
Myers Briggs Type Indicator Extroversion--Introversion	Teacher Characteristic	1	n.s.
	Level of Similarity	1.27	n.s.
	Interaction	1	n.s.
Sensing--Intuition	Teacher Characteristic	19.90	.01
	Level of Similarity	1	n.s.
	Interaction	1	n.s.
Thinking--Feeling	Teacher Characteristic	30.10	.01
	Level of Similarity	1.57	n.s.
	Interaction	1	n.s.
Judgment--Perception	Teacher Characteristic	1.16	n.s.
	Level of Similarity	1	n.s.
	Interaction	1	n.s.
Personal Reaction Inventory (Social Desirability)	Teacher Characteristic	4.77	.05
	Level of Similarity	1	n.s.
	Interaction	1.39	n.s.
Social Reaction Inventory (Locus of Control)	Teacher Characteristic	1	n.s.
	Level of Similarity	1	n.s.
	Interaction	1	n.s.
Opinionnaire (Dogmatism)	Teacher Characteristic	3.13	.10
	Level of Similarity	1	n.s.
	Interaction	1	n.s.
Graphic Expression (Need Achievement)	Teacher Characteristic	1	n.s.
	Level of Similarity	1	n.s.
	Interaction	1	n.s.

Table 9

Mean Scores of Students'
Achievement Ratios
as a Function of (1) Teacher Characteristics
and (2) Similarity of Student-Teacher Characteristics^a

Teacher Characteristic	Level of Student Similarity to Teacher		
	High	Middle	Low
Myers Briggs Type Indicator			
Extroversion	1.515	1.537	1.495
Introversion	1.428	1.568	1.502
Low Intuition	1.420	1.403	1.453
High Intuition	1.591	1.591	1.642
Thinking	1.428	1.424	1.330
Feeling	1.658	1.569	1.588
Judgment	1.526	1.444	1.485
Perception	1.535	1.556	1.500
Personal Reaction Inventory			
Aver. Soc. Desir.	1.483	1.584	1.603
Low Soc. Desir.	1.481	1.462	1.450
Social Reaction Inventory			
Aver. External	1.447	1.525	1.451
Low External	1.453	1.524	1.556
Opinionnaire			
Aver. Dogmatic	1.564	1.490	1.566
Low Dogmatic	1.472	1.448	1.477
Graphic Expression			
High <u>n</u> Ach	1.528	1.493	1.517
Aver. <u>n</u> Ach	1.460	1.486	1.548

^aMeans of students' Achievement ratios (p. 2)

teacher characteristics ("high intuition", "feeling", and conventional dogmatism) are related to both student satisfaction and student academic achievement. (2) Students who are most like their teachers in perceived locus of control show insignificantly, but consistently, greater scores in (a) satisfaction, (b) improvement in study habits and attitudes, and (c) improvement in reading ("low external" group only).

The most outstanding feature of these results that must be acknowledged is that performance was far more influenced by teacher characteristics than by student--teacher similarity. No less than thirteen times, the influence of teacher characteristics was a significant source of variance, whereas student-teacher similarity was a significant source of variance only four times. Furthermore, three of these four times, students least like their teachers showed greater mean scores. Obviously, the basic hypotheses of this study (pp. 1-2) were not confirmed.

INTERCORRELATIONS OF STUDENT CHARACTERISTICS AND PERFORMANCE

Through the facilities of The Ohio State University Numerical Computation Laboratory, intercorrelations of the eight student characteristics and the four performance criteria were obtained. Due to incomplete data for some students, the n for the intercorrelations was reduced to 405. Table 10 presents the intercorrelation matrix. (Appendix E; p. 58 shows the means and standard deviations on each of these variables for the total student population.)

Table 10 indicates the intercorrelations of the characteristic measures and of the performance measures as well as

Table 10

Intercorrelations of Student Characteristics and Performance

Dimensions	Extroverts. Introverts.	Sensing-- Intuition	Thinking-- Feeling	Judging-- Perception	Social De- sirability	Locus of Control	Dogmatism	n=achieve.	Satisfact.	Study Hab. Improve.	Reading Improve.	Achieve. Ratio
Characteristics												
Extrover.- Intro.	1.00	-.07	+.07	+.02	-.14***	+.17***	+.14***	+.03	-.16***	-.01	-.02	-.02
Sensing- Intui.		1.00	+.08*	+.39***	-.12**	+.03	-.11**	+.09*	+.08*	+.03	+.05	-.03
Thinking- Feeling			1.00	+.17***	-.00	+.20***	+.02	-.00	-.00	+.06	-.06	-.02
Judging- Percep.				1.00	-.34***	+.26***	-.05	+.02	-.25***	+.02	+.02	+.00
Social De- sirabil.					1.00	-.31***	-.12**	-.00	+.15***	+.04	-.01	+.11**
Locus of Control						1.00	+.23***	-.03	-.20***	-.08*	-.03	+.01
Dogmatism							1.00	-.06	-.01	-.05	-.01	-.01
n achieve.								1.00	-.00	+.04	-.05	-.00
Performance												
Satisfaction									1.00	+.21***	+.06	+.09*
Study Hab. Improve.										1.00	+.09*	-.05
Reading Improve.											1.00	-.04
Achieve. Ratios												1.00

***p<.01

**p<.05

*p<.10

the correlations of characteristic measures with performance. As can be seen by comparing the upper left and right hand quadrants of Table 10, the characteristic measures correlate more significantly with each other than with the performance measures. Perhaps the two most interesting observations about the characteristic intercorrelations are (1) the greater independence of n Achievement (fewer significant intercorrelations) and (2) the preponderance of significant negative correlations of social desirability with all the other characteristics.

The correlations of the characteristic measures and performance measures clearly suggest that only "satisfaction" is significantly related to student characteristics. The highly satisfied student is extroverted, judgmental, high in socially desirable thinking and perceives an internal locus of control. No other performance criterion is correlated with a characteristic measure beyond the .05 probability level.

Finally, the only intercorrelation of performance measures to attain the .01 probability level is the correlation of satisfaction and improvement in study habits and attitudes. Apparently each of the performance measures tapped independent types of performance. The insignificant relationship of achievement ratios and satisfaction fails to substantiate the previously suggested relationship of these measures (p. 23), a hypothesis based on similarity of teacher characteristics influencing achievement ratios and satisfaction.

CHAPTER IV

SUMMARY, CONCLUSIONS, AND IMPLICATIONS

BACKGROUND

Observation of the apparent effects of and student reactions to an educational skills course taught by several different instructors at The Ohio State University has consistently revealed a disparity not ordinarily expected from a course in which the same text, common exercises, and examinations are used. Reports by the instructors as to the types of students who benefit most from their classes had suggested the possibility that student achievement and satisfaction are related to similarity between the educational goals and personal characteristics of the students and the instructional goals and personal characteristics of his instructor.

Studies of teaching techniques--the area perhaps most relevant to the present research--have produced essentially negative results seemingly because students within each class respond differentially to a given technique, probably in large measure due to variations in instructor characteristics. Several studies have substantiated the significant influence of teacher characteristics.

OBJECTIVES

It was, then, the purpose of this research to explore the interaction of teacher--student characteristics and needs as

related to students' achievement, improvement, and satisfaction in an educational skills course. The following hypotheses were tested:

- A. Those students whose measured characteristics are most similar to those of the instructor obtain the highest achievement ratios.

The achievement ratio provides a measure of the student's total grade performance in the educational skills course as compared to his overall academic performance during the two subsequent quarters of the academic year. For example, if a student receives a grade B (3 points) in the educational skills course and a point hour ratio of 2.5 for all other courses in which he was registered during his academic year, his achievement ratio is $\frac{3.0}{2.5}$ or 1.2. Such a device allows each student to serve as his own control for ability and general motivation.

- B. Those students whose measured characteristics agree most nearly with those of the instructor show the greater amount of improvement, within the academic term, in a variety of selected educational skills, e.g., reading rate and comprehension.
- C. Those students whose measured characteristics are most similar to those of the instructor report the highest degree of satisfaction with immediate outcomes of the course.

PROCEDURE

The student population for the study included all students

enrolled in Psychology 411 (educational skills course) at The Ohio State University during the Autumn and Winter academic quarters, 1964-65. The average student was an eighteen year old, first quarter, male freshman from the college of Arts and Sciences, with an American College Test percentile of 41. Previous research has indicated that these students do not achieve, academically, as well as predicted by the ACT scores.

The instructors of the educational skills course were all graduate students studying for the Ph.D. degree in Counseling Psychology. The teaching of this course is one of the internship experiences needed to attain the Ph.D. degree in Counseling Psychology at The Ohio State University.

Five separate instruments provided data on eight personality characteristics, for both students and teachers: (1) the Myers-Briggs Type Indicator yielded measures on four basic preferences; (a) extroversion--introversion, (b) sensing--intuition, (c) thinking--feeling, (d) judgment--perception; (2) the Makench Dogmatism Scale indicated the degree of open and closed mindedness; (3) the Crowne-Marlowe Personal Reaction Inventory indicated the extent to which subjects respond affirmatively to socially desirable statements; (4) the Janes-Rhodes Social Reaction Inventory indicated the perceived locus of control; and (5) the Aronson Graphic Expression Measure of Achievement provided a simple assessment of the extent of achievement motivation.

Four performance measures yielded the four scores which

served as the dependent variables in this study: (1) an achievement ratio (described in the objectives, p. 1); (2) change in scores in the Brown-Holtzman Survey of Study Habits and Attitudes, which was administered at the beginning and end of the program; (3) changes in the Reading Efficiency Indexes (rate multiplied by comprehension) on the Robinson-Hall Reading Tests which were administered at the beginning and end of the program; and (4) the extent of the students' satisfaction with the educational skills course, as measured by a thirteen question satisfaction questionnaire.

All measures of characteristics but g Achievement were administered to instructors prior to the beginning of their teaching. Students received the same measures during the first week of classes. The achievement measure was administered to students and teachers during the fifth week of the term.

For data analysis, all students of each instructor were divided into three groups (most similar, moderately similar, least similar) for each characteristic. Instructors were divided into two groups (upper and lower) according to their scores on each of the characteristic measures. The total design then included eight (eight characteristics) 2×3 formats (two levels of instructors, three levels of student similarity) for each of the four performance measures. A two-way analysis of variance was then computed for each of the thirty-two matrices.

Results

Students were more satisfied with the educational skills

program when they had teachers who were (a) highly intuitive, (b) feeling oriented, (c) conventional in perception of locus of control, (d) conventional in amount of dogmatic thinking, and (e) highly achievement oriented.

Students who were least like their teachers in the characteristics of "judgment--perception" and social desirability were more satisfied with the educational skills program.

Students showed more improvement in study habits and attitudes when they had teachers who were conventional in their amount of (a) socially desirable thinking and (b) dogmatic thinking.

No significant variances occurred with respect to teacher-student similarity and improvement in study habits and attitudes.

Students showed more reading improvement when they had teachers who were (a) highly intuitive than low intuitive and (b) conventional in their perception of locus of control.

Students who were least like their teachers in "extroversion-introversion" showed more improvement in reading. Students who were most like their teachers in amount of socially desirable thinking showed more improvement in reading.

A significant interaction between teacher characteristics and teacher-student similarity, with respect to reading improvement, indicated that students more similar to "high intuition" and "feeling" teachers (and less similar to "low intuition" and "thinking" teachers) showed more reading improvement.

Students showed more academic achievement when they had

teachers who were (a) highly intuitive, (b) feeling oriented, and conventional in their amount of (c) socially desirable thinking, and (d) dogmatic thinking.

Intercorrelations of the characteristic measures, performance measures, and the characteristic measures with the performance measures, indicated (a) that Achievement is the most independent characteristic measure (fewer significant intercorrelations), (b) that satisfaction is the only performance measure significantly correlated with characteristic measures, and (c) that the performance measures are independent from one another (low intercorrelations).

CONCLUSIONS AND IMPLICATIONS

Perhaps the most important conclusion to be drawn from the present study is that student satisfaction and performance are more influenced by teacher characteristics, than by teacher-student similarity of characteristics. At least two teacher characteristics were significant sources of variance for every performance criterion.

No one teacher characteristic predominates as a source of influence; however, for the three characteristics in which teachers were divided into "average" (conventional) and "low" groups (social desirability, locus of control, and dogmatism), it was always the "average" group which emerged as the positive influence. These "average" teachers quite possibly can better meet the needs of students who are functioning in undergraduate settings; a situation in which students responding with proper

(socially desirable) and conforming (dogmatic) statements attain the best grades (external locus of control). Although teachers who are models of open-mindedness and self-direction (internal locus of control, little socially desirable thinking) are ideally most desirable, they may well be inappropriate models for students who must meet the demands of the present American College system.

The fact that "idea" and "feeling" oriented teachers elicit more student satisfaction and facilitate higher achievement raises another interesting question as to whether ideas and feelings are effective teacher characteristics because they are appropriate models for students or because they are appropriate channels of reaching students, of facilitating learning prerequisites to achievement in the educational skills program. The lack of significance of the teacher-student similarity variable suggests the latter--that "ideas" and "feelings" facilitate a learning process, rather than provide a model "learner." If "ideas" and "feelings" were attributes of models of efficient learners, the subjects most like their teachers in "intuition" (idea oriented) and "feeling" should have performed significantly better than others less like their teachers.

The general lack of significance in teacher-student similarity leads to the conclusion that there is little evidence that teachers and students interact along measurable personality dimensions, at least along the eight dimensions of the present

study. In two of the three significant interactions, teacher-student similarity affected student performance negatively, i.e., students most dissimilar to their teachers attained higher mean scores. Although dissonance theory suggests that highly similar persons may not interact well together, it does not suggest that highly dissimilar persons interact well together, as indicated, in part, by the present study.

In view of the lack of significant interaction of students and teachers along personality dimensions, and in view of the statements above concerning the effectiveness of the more "average" teachers, perhaps an investigation of student-teacher similarity of means and goals for an educational setting would yield more significance than similarity of teacher-student personality characteristics. Perceived environmental press may well be more important to student performance than the personality characteristics brought to the academic setting.

The implications of the intercorrelations of the various measures could be extensive, for many of the correlations are statistically significant and relate to previous correlation research which has been conducted with these same measures. However, the most important implications probably relate to the total relatedness or unrelatedness of each of the measures to one another.

Perhaps the independence of n Achievement from the other characteristic measures is the most significant observation of unrelatedness. If the other characteristic measures might be considered "modes of adaptation" in contrast to a "perceived need" such as n Achievement, then independence of n Achievement is somewhat comprehensible. "what I do" may be quite different from "what I need (or want)".

Also concerning independence of measures, considering the number of significant correlations of social desirability, locus of control, and dogmatism, to the Myers-Briggs dimensions, it might be said that these measures add little to a total assessment of a person's modes of adaptation.

The implication, from the negative correlations of social desirability with the other characteristic measures, that students with highly socially desirable thinking should perceive an internal locus of control and exhibit little dogmatic thinking is contrary to expectations--the highly socially desirable thinker is apparently not "following the party line" as the term suggests. However, the fact that these same students are typically an MBTI type on the Myers-Briggs (negative correlations of social desirability and each Myers-Briggs type) is perhaps more understandable--they reject introspection, ideas, and feelings; therefore, they must look to consensually validated logic and facts--what others approve.

The lack of significant correlations between characteristic measures and performance measures (except for satisfaction)

perhaps explains why teacher-student similarity in characteristics was not at all significant--even a student's own characteristics fail to influence his performance; therefore, similarity to his teacher, in characteristics, is irrelevant to performance. That satisfaction--a subjective measure--is more related to characteristics than improvement measures--objective measures--is perhaps best accounted for by the contrast of the terms "subjective--objective". What one feels is probably more related to self-reported characteristics than what one does.

The major implication of the intercorrelations of performance measures must be that student performance has many independent facets (few significant intercorrelations); therefore, an educational program assessment which includes student performance as one of its criteria should sample as many aspects of student performance as possible.

In view of the fact that, in the present study, teacher characteristics are, statistically, significantly more important than either teacher-student similarity or characteristic-performance correlations, the final stated implication of this research should perhaps concern the heuristic and practical applications of the teacher characteristic data. First, it must be said that heuristic applications should precede the practical applications. Some measure of the role of teacher characteristics in the total teacher--method--content context should be established. As significant as teacher characteristics are, method or content, or at least interactions of

characteristics, methods, and content, may be equally or more important. One of the conclusions of teacher method research has been that teacher method, per se, is often insignificant since it is only one facet of the total complex of the learning situation. If teacher characteristics, however, consistently emerge as an important and significant factor in student performance in particular educational settings (it seems improbable that any one characteristic would be important to all learnings); then the selection of teachers for a given educational situation might well include an appraisal of teacher characteristics as well as teacher training and experience.

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APPENDIX A

OPIONNAIRE

The following is a survey of the opinions of people in general about a number of social and personal questions. Of course there are many different answers. The best answer to each statement below is your personal opinion. We have tried to cover many different and opposing points of view. You may find yourself agreeing strongly with some of the statements, disagreeing just as strongly with others, and perhaps uncertain about others; whether you agree or disagree with any statement, you can be sure that many other people feel the same as you do.

Mark each statement on the answer sheet provided according to how much you agree or disagree with it. Please mark every one. Write 1, 2, 3, or -1, -2, -3, depending on how you feel in each case. Plus means you agree with the statement, minus means you disagree with the statement as follows:

1: I AGREE A LITTLE

-1: I DISAGREE A LITTLE

2: I AGREE ON THE WHOLE

-2: I DISAGREE ON THE WHOLE

3: I AGREE VERY MUCH

-3: I DISAGREE VERY MUCH

1. A person who thinks primarily of his own happiness is beneath contempt.
2. The main thing in life is for a person to want to do something important.
3. I wish people would be more definite about things.
4. In a discussion I often find it necessary to repeat myself several times to make sure I am being understood.
5. Most people just don't know what's good for them.
6. A person who has bad manners, habits and breeding can hardly expect to get along with decent people.
7. In times like these, a person must be pretty selfish if he considers his own happiness primarily.
8. A man who does not believe in some great cause has not really lived.
9. I work under a great deal of tension at times.
10. I'd like it if I should find someone who would tell me how to solve my personal problems.

1: I AGREE A LITTLE

-1: I DISAGREE A LITTLE

2: I AGREE ON THE WHOLE

-2: I DISAGREE ON THE WHOLE

3: I AGREE VERY MUCH

-3: I DISAGREE VERY MUCH

11. Of all the different philosophies which have existed in this world, there is probably only one which is correct.
12. Whether it's all right to manipulate people or not, it is certainly all right when it's for their own good.
13. It is when a person devotes himself to an ideal or cause that his life becomes meaningful.
14. In this complicated world of ours the only way we can know what is going on is to rely upon leaders or experts who can be trusted.
15. If people would talk less and work more, everybody would be better off.
16. There are a number of persons I have come to hate because of the things they stand for.
17. There is so much to be done and so little time to do it in.
18. It is when a person devotes himself to an ideal or cause that he becomes important.
19. It is better to be a dead hero than a live coward.
20. A group which tolerates too much difference of opinion among its own members cannot exist for long.
21. The business man and the manufacturer are much more important to society than the artist and the professor.
22. It is only natural that a person should have a much better acquaintance with ideas he believes in than with ideas he opposes.
23. While I don't like to admit this even to myself, I sometimes have the ambition to become a great man, like Einstein, or Beethoven, or Shakespeare.
24. Plain common sense tells you that prejudice can be removed by education, not legislation.
25. Even though freedom of speech for all groups is a worthwhile goal, it is unfortunately necessary at times to restrict the freedom of certain political groups.

1: I AGREE A LITTLE

-1: I DISAGREE A LITTLE

2: I AGREE ON THE WHOLE

-2: I DISAGREE ON THE WHOLE

3: I AGREE VERY MUCH

-3: I DISAGREE VERY MUCH

26. If a man is to accomplish his mission in life it is sometimes necessary to gamble "all or nothing at all".
27. A person must be pretty stupid if he still believes in differences between the races.
28. Most people just don't give a "damn" about others.
29. A person who gets enthusiastic about a number of causes is likely to be a pretty "wicky-wacky" sort of person.
30. Be unto others as they do unto you.
31. To compromise with our political opponents is dangerous because it usually leads to the betrayal of our own side.
32. If given the chance I would do something that would be of great benefit to the world.
33. The trouble with many people is that they don't take things seriously enough.
34. In times like these it is often necessary to be more on guard against ideas put out by certain people or groups in one's own camp than by those in the opposing camp.
35. In a heated discussion I generally become so absorbed in what I am going to say that I forget to listen to what the others are saying.
36. It bothers me when something unexpected interrupts my daily routine.
37. Once I get woundup in a heated discussion I just can't stop.
38. There are two kinds of people in this world; those who are on the side of truth and those who are against it.
39. What the youth needs is strict discipline, rugged determination, and the will to work and fight for family and country.
40. Man on his own is a helpless and miserable creature.
41. The United States and Russia have just about nothing in common.

1: I AGREE A LITTLE

-1: I DISAGREE A LITTLE

2: I AGREE ON THE WHOLE

-2: I DISAGREE ON THE WHOLE

3: I AGREE VERY MUCH

-3: I DISAGREE VERY MUCH

42. I set a high standard for myself and I feel others should do the same.
43. In the history of mankind there have probably been just a handful of really great thinkers.
44. The highest form of government is a democracy and the highest form of democracy is a government run by those who are most intelligent.
45. Appreciation of others is a healthy attitude, since it is the only way to have them appreciate you.
46. The present is all too often full of unhappiness. It is the future that counts.
47. Unfortunately, a good many people with whom I have discussed important social and moral problems don't really understand what is going on.
48. People who seem unsure and uncertain about things make us feel uncomfortable.
49. Fundamentally, the world we live in is a pretty lonely place.
50. It is often desirable to reserve judgment about what's going on until one has had a chance to hear the opinions of those one respects.
51. In general, full economic security is bad; most men wouldn't work if they didn't need the money for eating and living.
52. The worst crime a person can commit is to attack publicly the people who believe in the same thing he does.
53. In the long run the best way to live is to pick friends and associates whose tastes and beliefs are the same as one's own.
54. The American re-armament program is clear and positive proof that we are willing to sacrifice to preserve our freedom.
55. Most of the ideas which get published nowadays aren't worth the paper they are printed on.
56. It is only natural for a person to be rather fearful of the future.

1: I AGREE A LITTLE

-1: I DISAGREE A LITTLE

2: I AGREE ON THE WHOLE

-2: I DISAGREE ON THE WHOLE

3: I AGREE VERY MUCH

-3: I DISAGREE VERY MUCH

57. Most of the arguments or quarrels I get into are over matters of principle.
58. My blood boils whenever a person stubbornly refuses to admit he's wrong.
59. When it comes to differences of opinion in religion we must be careful not to compromise with those who believe differently from the way we do.
60. America may not be perfect, but the American way has brought us about as close as human beings can get to a perfect society.

APPENDIX B

PERSONAL REACTION INVENTORY

Name

Listed below are a number of statements concerning personal attitudes and traits. Read each item and decide whether it is true or false as it pertains to you personally. If the item is true as applied to you, circle the T on the left-hand side of the page opposite the item. If it is false as applied to you, circle the F on the left-hand side of the page opposite the item.

Fill in your name in the space provided at the top of the page.

Remember: Answer each item as it applies to you personally by circling the T or the F opposite each item.

- | | | |
|-----|-----|--|
| T / | 1. | Before voting I thoroughly investigate the qualifications of all the candidates. |
| T F | 2. | I never hesitate to go out of my way to help someone in trouble. |
| T F | 3. | It is sometimes hard for me to go on with my work if I am not encouraged. |
| T F | 4. | I have never intensely disliked anyone. |
| T F | 5. | On occasion I have had doubts about my ability to succeed in life. |
| T F | 6. | I sometimes feel resentful when I don't get my way. |
| T F | 7. | I am always careful about my manner of dress. |
| T F | 8. | My table manners at home are as good as when I eat out in a restaurant. |
| T F | 9. | If I could get into a movie without paying and be sure I was not seen I would probably do it. |
| T F | 10. | On a few occasions, I have given up doing something because I thought too little of my ability. |
| T F | 11. | I like to gossip at times. |
| T F | 12. | There have been times when I felt like rebelling against people in authority even though I knew they were right. |

- T F 13. No matter who I'm talking to, I'm always a good listener.
- T F 14. I can remember "playing sick" to get out of something.
- T F 15. There have been occasions when I took advantage of someone.
- T F 16. I'm always willing to admit it when I make a mistake.
- T F 17. I always try to practice what I preach.
- T F 18. I don't find it particularly difficult to get along with loud mouthed, obnoxious people.
- T F 19. I sometimes try to get even rather than forgive and forget.
- T F 20. When I don't know something I don't at all mind admitting it.
- T F 21. I am always courteous, even to people who are disagreeable.
- T F 22. At times I have really insisted on having things my own way.
- T F 23. There have been occasions when I felt like smashing things.
- T F 24. I would never think of letting someone else be punished for my wrongdoings.
- T F 25. I never resent being asked to return a favor.
- T F 26. I have never been irked when people expressed ideas very different from my own.
- T F 27. I never make a long trip without checking the safety of my car.
- T F 28. There have been times when I was quite jealous of the good fortune of others.
- T F 29. I have almost never felt the urge to tell someone off.
- T F 30. I am sometimes irritated by people who ask favors of me.
- T F 31. I have never felt that I was punished without cause.
- T F 32. I sometimes think when people have a misfortune they only got what they deserved.

T F 13. I have never deliberately said anything that hurt
anyone's feelings.

APPENDIX C

Name

Date

SOCIAL REACTION INVENTORY

This is a questionnaire to find out the way in which certain important events in our society affect different people. Each item consists of a pair of alternatives lettered a or b. Please select the one statement of each pair (and only one) which you more strongly believe to be the case as far as you're concerned. Be sure to select the one you actually believe to be more true than the one you think you should choose or the one you would like to be true. This is a measure of personal belief; obviously there are no right or wrong answers.

Please answer these items carefully but do not spend too much time on any one item. Be sure to give an answer for every pair. Make your answers to each question by writing the letter a or b in the space opposite each question.

In some instances you may discover that you believe both statements or neither one. In such cases, be sure to select the one you more strongly believe to be the case as far as you're concerned. Also try to respond to each item independently when making your choice; do not be influenced by your previous choices.

REMINDER

Select that alternative which you personally believe to be more true.

I more strongly believe that:

- 1 a. Children get into trouble because their parents punish them too much.
- b. The trouble with most children nowadays is that their parents are too easy with them.
- 2 a. Many of the unhappy things in people's lives are partly due to bad luck.
- b. People's misfortunes result from the mistakes they make.
- 3 a. One of the major reasons why we have wars is because people don't take enough interest in politics.
- b. There will always be wars, no matter how hard people try to prevent them.
- 4 a. In the long run people get the respect they deserve in this world.
- b. Unfortunately, an individual's worth often passes unrecognized no matter how hard he tries.
- 5 a. The idea that teachers are unfair to students is nonsense.
- b. Most students don't realize the extent to which their grades are influenced by accidental happenings.
- 6 a. Without the right breaks one cannot be an effective leader.
- b. Capable people who fail to become leaders have not taken advantage of their opportunities.
- 7 a. No matter how hard you try some people just don't like you.
- b. People who can't get others to like them, don't understand how to get along with others.
- 8 a. Heredity plays the major role in determining one's personality.
- b. It is one's experiences in life which determine what they're like.
- 9 a. I have often found that what is going to happen will happen.
- b. Trusting to fate has never turned out as well for me as making a decision to take a definite course of action.

I more strongly believe that:

- 10 a. In the case of the well prepared student there is rarely if ever such a thing as an unfair test.
b. Many times exam questions tend to be so unrelated to course work, that studying is really useless.
- 11 a. Becoming a success is a matter of hard work, luck has little or nothing to do with it.
b. Getting a good job depends mainly on being in the right place at the right time.
- 12 a. The average citizen can have an influence in government decisions.
b. This world is run by the few people in power, and there is not much the little guy can do about it.
- 13 a. When I make plans, I am almost certain that I can make them work.
b. It is not always wise to plan too far ahead because many things turn out to be a matter of good or bad fortune anyhow.
- 14 a. There are certain people who are just as good.
b. There is some good in everybody.
- 15 a. In my case getting what I want has little or nothing to do with luck.
b. Many times we might just as well decide what to do by flipping a coin.
- 16 a. Who gets to be the boss often depends on who was lucky enough to be in the right place first.
b. Getting people to do the right thing depends upon ability, luck has little or nothing to do with it.
- 17 a. As far as world affairs are concerned, most of us are the victims of forces we can neither understand, nor control.
b. By taking an active part in political and social affairs the people can control world events.

I more strongly believe that:

- ___ 18 a. Most people don't realize the extent to which their lives are controlled by accidental happenings.
- b. There really is no such thing as "luck."
- ___ 19 a. One should always be willing to admit his mistakes.
- b. It is usually best to cover up one's mistakes.
- ___ 20 a. It is hard to know whether or not a person really likes you.
- b. How many friends you have depends upon how nice a person you are.
- ___ 21 a. In the long run the bad things that happen to us are balanced by the good ones.
- b. Most misfortunes are the result of lack of ability, ignorance, laziness, or all three.
- ___ 22 a. With enough effort we can wipe out political corruption.
- b. It is difficult for people to have much control over the things politicians do in office.
- ___ 23 a. Sometimes I can't understand how teachers arrive at the grades they give.
- b. There is a direct connection between how hard I study and the grades I get.
- ___ 24 a. A good leader expects people to decide for themselves what they should do.
- b. A good leader makes it clear to everybody what their jobs are.
- ___ 25 a. Many times I feel that I have little influence over the things that happen to me.
- b. It is impossible for me to believe that chance or luck plays an important role in my life.
- ___ 26 a. People are lonely because they don't try to be friendly.
- b. There's not much use in trying too hard to please people, if they like you, they like you.

I more strongly believe that:

- ___ 27 a. There is too much emphasis on athletics in high school.
 - b. Team sports are an excellent way to build character.
- ___ 28 a. What happens to me is my own doing.
 - b. Sometimes I feel that I don't have enough control over the direction my life is taking.
- ___ 29 a. Most of the time I can't understand why politicians behave the way they do.
 - b. In the long run the people are responsible for bad government on a national as well as on a local level.

APPENDIX D

PSYCHOLOGY 411

QUESTIONNAIRE

Below are a number of questions regarding your satisfaction with Psychology 411. Before answering each question, please consider (1) the content of the text, (2) classroom and workbook projects, and (3) your instructor's presentation and discussion of the material that pertains to that question. Then indicate your answer by marking the one of the five choices which best describes your reactions to that question. Include any comments or suggestions you may have in the space at the end of the questionnaire.

1. How satisfied were you with the topic of SQ3R?

.	.	.	.	.
Very dissatisfied	Dissatisfied	No feeling one way or the other	Satisfied	Very satisfied

2. How satisfied were you with the topic of examination skills?

.	.	.	.	.
Very dissatisfied	Dissatisfied	No feeling one way or the other	Satisfied	Very satisfied

3. How satisfied were you with the topic of concentration?

.	.	.	.	.
Very dissatisfied	Dissatisfied	No feeling one way or the other	Satisfied	Very satisfied

4. How satisfied were you with the topic of motivation?

.	.	.	.	.
Very dissatisfied	Dissatisfied	No feeling one way or the other	Satisfied	Very satisfied

5. How satisfied were you with the topic of classroom skills?

.	.	.	.	.
Very dissatisfied	Dissatisfied	No feeling one way or the other	Satisfied	Very satisfied

6. How satisfied were you with the topic of preparing written reports?

.	.	.	.	.
Very	Dissatisfied	No feeling	Satisfied	Very
dissatisfied		one way or		satisfied
		the other		

7. How satisfied were you with the topic of reading skills?

.	.	.	.	.
Very	Dissatisfied	No feeling	Satisfied	Very
dissatisfied		one way or		satisfied
		the other		

8. How satisfied were you with the topic of English skills?

.	.	.	.	.
Very	Dissatisfied	No feeling	Satisfied	Very
dissatisfied		one way or		satisfied
		the other		

9. How satisfied are you with the stated purposes of Psychology 411?

.	.	.	.	.
Very	Dissatisfied	No feeling	Satisfied	Very
dissatisfied		one way or		satisfied
		the other		

10. How satisfied are you with the selection of topics included in Psychology 411?

.	.	.	.	.
Very	Dissatisfied	No feeling	Satisfied	Very
dissatisfied		one way or		satisfied
		the other		

11. How satisfied are you with the Psychology 411 course in general?

.	.	.	.	.
Very	Dissatisfied	No feeling	Satisfied	Very
dissatisfied		one way or		satisfied
		the other		

12. How satisfied are you with your Psychology 411 instructor, in general?

.	.	.	.	.
Very	Dissatisfied	No feeling	Satisfied	Very
dissatisfied		one way or		satisfied
		the other		

13. How satisfied are you with your improvement in study skills this quarter?

Very dissatisfied	Dissatisfied	No feeling one way the other	Satisfied	Very satisfied
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Comments:

Name _____

Your name will be used for tabulation purposes only. Your instructor will see the results of this questionnaire only after your name has been cut off.

APPENDIX E

MEANS AND STANDARD DEVIATIONS OF CHARACTERISTICS AND PERFORMANCE MEASURES

Dimension	Mean	Standard Deviation
Characteristic Measures		
Extroversion--Introversion	- 7.74	25.16
Sensing--Intuition	- 8.74	24.29
Thinking--Feeling	+ 4.62	20.37
Judgment--Perception	- 9.17	25.77
Social Desirability	+ 16.43	5.44
Locus of Control	+ 8.15	4.03
Dogmatism	+160.36	23.65
n Achievement	+ 1.61	5.77
Performance Measures		
Satisfaction	+ 52.23	6.63
Improvement in Study Habits	+ 6.74	9.83
Improvement in Reading	+3771.73	4509.49
Achievement Ratios	+ 1.49	.39

APPENDIX F

PERSONNEL

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